

**SMALL UNMANNED AIRCRAFT SYSTEM (DRONE) TO  
SUPPORT BRIDGE AND FACILITY INSPECTIONS**

**PART 1 - GENERAL**

**1.1 DESCRIPTION OF WORK**

- A. The MBTA is soliciting bids for a small unmanned aircraft system (commonly and hereinafter referred to as a drone) to support the visual inspection of bridges, structures, and facilities by qualified Transit Facilities Maintenance personnel.

**1.2 SUBMITTALS**

- A. Product Data: including product description and catalog cuts.

**PART 2 - PRODUCTS**

**2.1 GENERAL REQUIREMENTS - HARDWARE**

- A. Supply (1) Flyability Elios 3 – Enterprise Package or approved equal drone meeting the following requirements:
  - 1. Must be capable of stable flight in GPS denied environments (i.e. tunnels, interiors of steel girders, pump wells).
  - 2. Rugged collision-resilient design.
  - 3. Have collision avoidance system.
  - 4. Must be capable of recovering from flipping upside down.
  - 5. Must be resistant to water splashes and dust ingress.
  - 6. 4K visual camera with 180 degree field of view.
  - 7. On-board thermal camera.
  - 8. LiDAR payload.
  - 9. On-board lighting system.
- B. Must include remote control with screen or tablet for real time viewing of camera images.
- C. Transport case
- D. Battery storage
- E. Toolbox with required maintenance tools.
- F. Manufacturers recommended spare parts (propellers, cage elements, etc)
- G. Sufficient batteries for at least 90 minutes of flight time.

- H. Battery charger

## **2.2 SOFTWARE**

- A. 3 year subscription for any necessary software packages required for basic operation and image capture.

## **2.3 TRAINING AND SUPPORT**

- A. In person introductory training for operation of drone and software.
- B. Unlimited phone and email support

## **2.4 WARRANTY**

- A. 24-month warranty

# **PART 3 - EXECUTION**

## **3.1 GENERAL**

- A. Drone and accessories to be furnished upon receipt of purchase order from MBTA.
- B. Training to be coordinated between MBTA and manufacture or manufacturers authorized representative upon receipt of the drone.
- C. Warranty period to begin upon pilot completion of manufacturer's training.

# **PART 4 - MEASUREMENT AND PAYMENT**

## **4.1 PAYMENT TERM**

- A. Supplier shall invoice separately for 2 items:
  - 1. Invoice 1 will be approved for payment upon receipt of the drone, accessories, and software.
  - 2. Invoice 2 will be approved for payment at the completion of initial training.
  - 3. Any deviations from this invoicing schedule must be requested in advance from the MBTA.

# **END OF SECTION**